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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,163	03/29/2001	Guizeng Shi	L9289.01113 PCT	3541

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Steven Davis Miller & Mosher
1615 L Street N W Suite 850
Washington, DC 20036

EXAMINER	
PATEL, JAY P	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/763,163	SHI ET AL.	
	Examiner	Art Unit	
	Jay P. Patel	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *47-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *47-49 and 59-61* is/are rejected.

7)☒ Claim(s) *50-58,62 and 63* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 47, 59, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basu et al. (U. S. Patent 6097733) further in view of Manning et al. (U.S. Patent 5956342).

3. In regards to claim 47, 59, 60 and 61 Basu discloses a wireless communication apparatus in figure 1 where mobile terminals 104a-c and base station 102 comprise a communication system. In further regards, Basu teaches a monitor that monitors, in each frame, the number of transmission queuing cells that uplink storage and downlink storages of a plurality of communication users each store in figure 9 step 902 where, the bandwidth allocator monitors multimedia data flow for each mobile terminal that has been allocated multimedia bandwidth. Furthermore, the transmitting data buffer (figure 5, buffer 524) and the receiving data buffer (figure 5, buffer 512) anticipate the uplink and downlink storage means respectively

Basu fails to teach an allocator that allocates, in each frame, unit sub-slots to the transmission queuing cells by repeating a first circulation such that, upon an allocation occasion to the uplink storages and downlink storages of the plurality of users, a unit sub-slot is allocated to a transmission queuing cell with a longest transmission queuing

time in each storage. Manning teaches the above-mentioned limitation in figure 5. The bandwidth arbiter (bandwidth allocator) grants bandwidth to the requesting switch processor (TSPP) by attempting to match available bandwidth on a round-robin basis. The arbiter uses a pointer to select a TSPP with which matches are first attempted (TSPP I +1). Matches are next attempted in sequential basis such that matches are attempted with each TSPP. If the first TSPP is able to transmit the cell in the oldest entry then the pointer begins with the next TSPP at the next cell time. If the first TSPP is not able to transmit the cell in the oldest entry then the pointer begins with the same TSPP at the next cell time. Therefore, the oldest entry in addition to every point-to-multipoint connection is guaranteed to receive bandwidth with the oldest entry receiving priority (see figure 5 and column 6, lines 15-31).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the monitoring means disclosed by Basu with the allocation means disclosed by Manning. The proper motivation to do so comes from, Manning where it is stated, Switch efficiency is increased by utilizing instantaneously unused bandwidth. When switch traffic increases, available bandwidth decreases. Nevertheless, unutilized bandwidth will be present from time to time, and such bandwidth is wasted if not utilized. Therefore, point-to-point and point-to-multipoint transmissions which would otherwise be dropped are made using the otherwise unutilized bandwidth, and switch efficiency is increased. Such use is made possible by the arbitration techniques which reduce delay" (see column 3 lines 3-11).

4. Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manning et al. (U.S. Patent 5956342).

5. In regards to claim 48, Manning teaches allocating the unit sub-slot preferentially to a particular transmission queuing cell in each storage. The arbiter uses a pointer to select a TSPP with which matches are first attempted (TSPP I +1). Matches are next attempted in sequential basis such that matches are attempted with each TSPP. If the first TSPP is able to transmit the cell in the oldest entry then the pointer begins with the next TSPP at the next cell time (next cell storage). If the first TSPP is not able to transmit the cell in the oldest entry then the pointer begins with the same TSPP at the next cell time (see figure 5 and column 6, lines 15-31).

In regards to claim 49, Manning teaches between each first circulation, a second circulation such that, upon an allocation occasion to the uplink storages and downlink storages of the plurality of users, the unit sub-slot is allocated only to the particular transmission queuing cell having the longest transmission queuing time in each storage in figure 5. The bandwidth arbiter (bandwidth allocator) grants bandwidth to the requesting switch processor (TSPP) by attempting to match available bandwidth on a round-robin basis. The arbiter uses a pointer to select a TSPP with which matches are first attempted (TSPP I +1). Matches are next attempted in sequential basis (second circulation) such that matches are attempted with each TSPP. If the first TSPP is able to transmit the cell in the oldest entry then the pointer begins with the next TSPP at the next cell time. If the first TSPP is not able to transmit the cell in the oldest entry then the

pointer begins with the same TSPP at the next cell time. Therefore, the oldest entry in addition to every point-to-multipoint connection is guaranteed to receive bandwidth with the oldest entry receiving priority (see figure 5 and column 6, lines 15-31).

Allowable Subject Matter

6. Claims 50-58 and 62-63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPP 12/30/05

Jay P. Patel
Assistant Examiner
Art Unit 2666

DANG TON
PRIMARY EXAMINER